US Army Corps of Engineers

RIVER PASS

RiverPass

Bringing Inland Waterways into the Electronic Age

NAVIGATE INTO THE 21st CENTURY

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Planning CoP
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The Concept

- Say Good Bye to the VORs –Tedious Paper Forms that need to be filled out By Hand, keyed into a computer By Hand.
- RiverPass can capture waterborne commerce data electronically, automatically.

Ingredients

- Vessel tracking technologies with Global Positioning Systems (GPS) allow real or near-real time tracking of tows at remote locations
- Geographic Information systems (GIS) provide a visual display of location-based data with descriptive attribute information

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The Fuel-Taxed Inland and Intracoastal Waterway System

US Barge Fleet in 2004

- Approximately 40,000 barges
- Approximately 4,000 push and tug boats
- US barge fleet size – Top 25 companies represent 50%
- US push and tug fleet size – Top 25 companies represent 20%

* WCSC 2004 preliminary inland navigation figures

Goal of RiverPass

- Integrate Vessel Tracking with GIS
- Static Data – Locks, Channels, Terminals
- Dynamic Data – Tugboats, Barges and their cargo

Primary Initial Benefit

- Fast, accurate collection of waterborne commerce data

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- "Timely data from RiverPass would provide beneficial support to the Navigation Budget." *Barry Holiday, Corps Navigation Business Line Manager*
- "A system like RiverPass would be a tremendous boost to the waterways industry." *Doug Sheffler of American Waterways Operators*

Spinoff Benefits

- Facilitation of **intermodalism** (trucking and rail companies already have electronic tracking systems)
- Enhanced **security** due to real time tracking of dangerous cargoes
- Enhanced **safety** due to real time communications to operators of changes in river conditions, traffic

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- More efficient **logistics** planning for barge companies
- Management and alleviation of **congestion** at locks and other bottlenecks
- Increased ability to communicate and **manage emergency** closures on the system
- Increased ability to manage natural and man-made **disasters**

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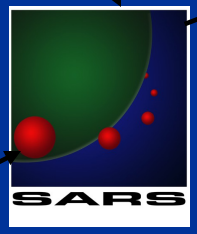
- How RiverPass will work

GPS Position Report

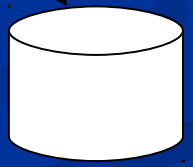
Satellite



Data Feed

Operator

Common Operating Picture



Corps Data Warehouse

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Take a Trip with RiverPas

Trip Number Generated. Record Opened on Remote Machine. Copy of Record Sent to Data Warehouse

Record for Trip Closed. Record Sent to Data Warehouse. Information Used to Update Departure Record

Departure Point

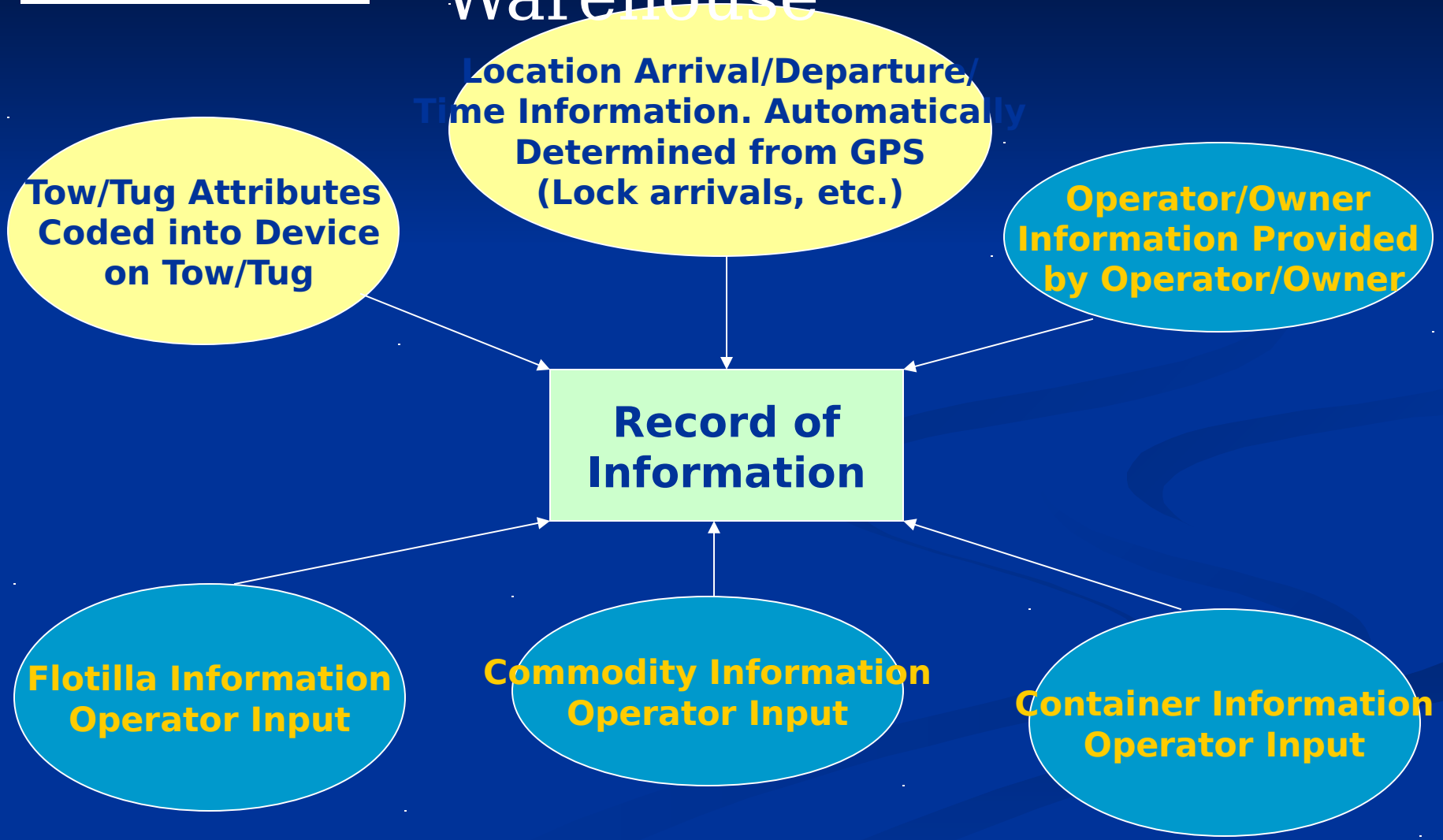
Info. Reporting Point.

Arrival Point

Location & Time Info. Added to Departure Info. Info. Written to Data Warehouse

Trip Number Generated Record Opened on Remote Machine. Copy of Record Sent to Data Warehouse

A Record in the RiverPass Warehouse


Location Arrival/Departure/ Time Information. Automatically Determined from GPS (Lock arrivals, etc.)
Tow/Tug Attributes Coded into Device on Tow/Tug
Operator/Owner Information Provided by Operator/Owner
Record of Information
Flotilla Information Operator Input
Commodity Information Operator Input
Container Information Operator Input

Internal Partners

- Waterborne Commerce Statistics Center (WCSC)
- Huntington District (Strictly Business Inc.)
- Operations and Maintenance of Navigation Information (OMNI)
- Lock Performance Monitoring System (LPMS)

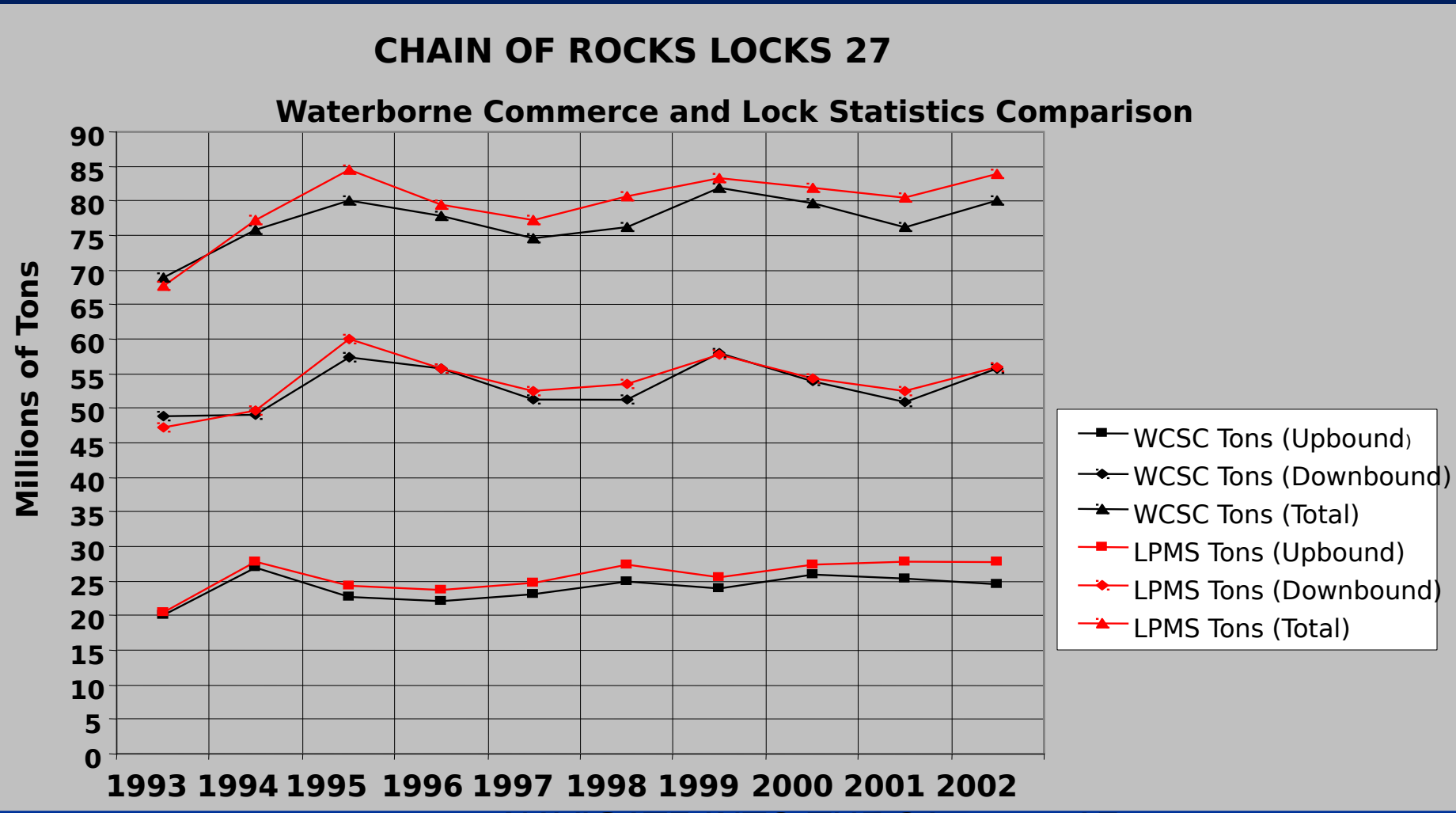
External Partners/Stakeholders

- National Marine Exchange
- USCG/Secure Asset Reporting Services
- Smart Lock
- Vessel Operator Traffic Management Centers
- Barge Industry

The RiverPass Advantage

- One System – One Standard
- Integration
- The complete domestic transportation picture
- One stop shopping for information
- A public-private partnership
- Not just another government program with cool, expensive toys

A Comparison of WCSC and LPMS T
Killing One Bird with Two Stones

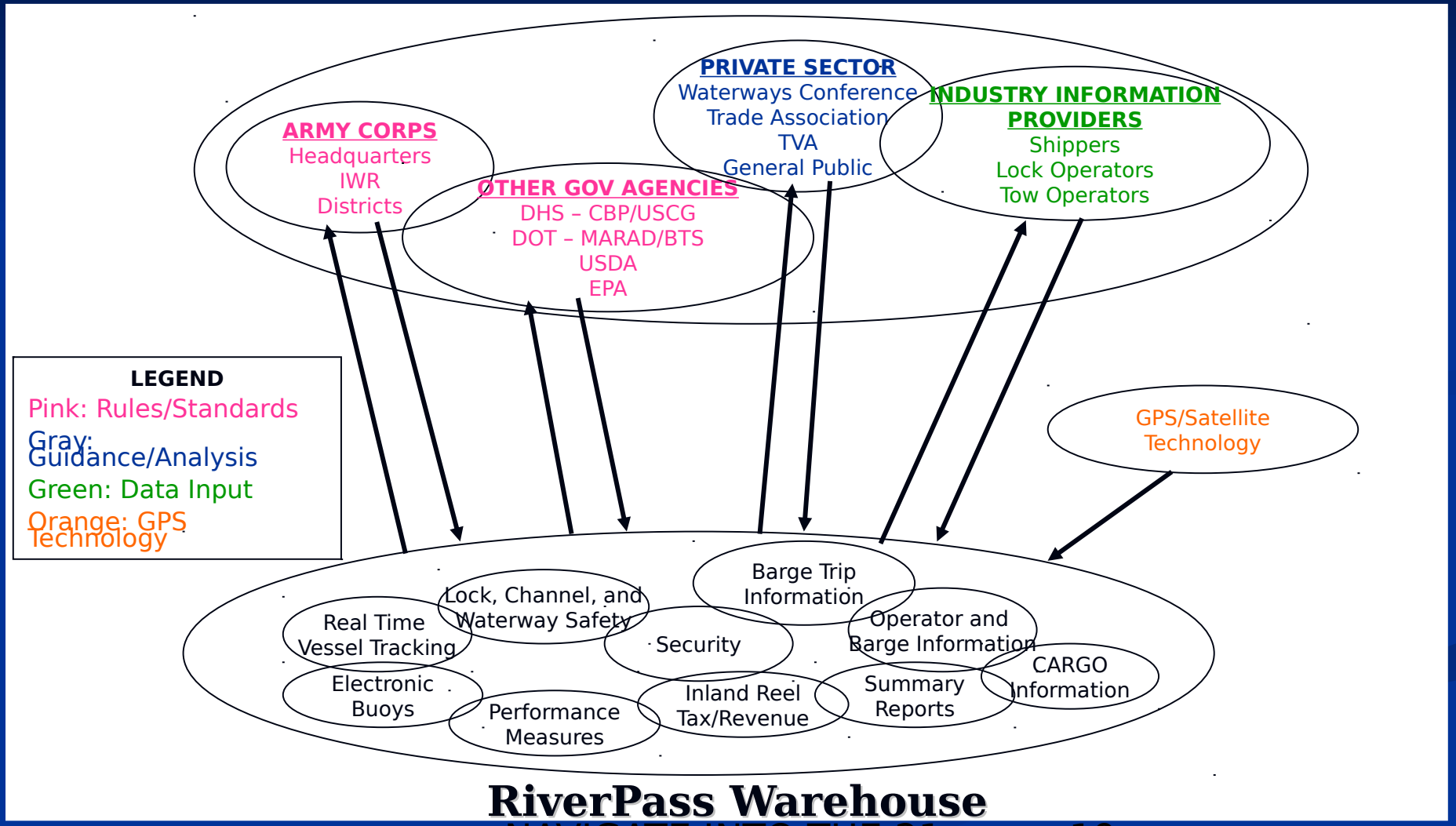


RiverPass Customers
Build One – Sell Many

RiverPass Business Requirements Output Matrix									
		Safety and Security				Statistics			
Entity Category		Real Time Vessel Tracking	Lock/Channel Safety	River Safety, E-buoies and Charting	Security Anti-Terrorism	Detail Load/Unload information	Trips and Itenerary	Performance Measures	Summary Reports
Internal Corps	USACE-HQ	N	Y	N	Y	Y	Y	Y	Y
	USACE-IWR/WCSC	N	N	N	N	Y	Y	Y	Y
	USACE-ERDC	N	N	Y	N	N	N	N	N
	Corps Districts	Y	Y	Y	Y	Y	Y	Y	Y
Other Government	Congress	N	N	N	N	N	N	Y	Y
	DHS- CBP/USCG	Y	Y	Y	Y	Y	Y	N	Y
	USDA	Y	Y	Y	Y	Y	Y	Y	Y
	EPA	Y	Y	Y	Y	Y	Y	Y	Y
	DOT- MARAD/BTS	N	N	N	Y	Y	Y	Y	Y
Private Sector	Waterways Conference	N	N	N	N	N	Y	N	Y
	Trade Associations	N	N	N	N	N	Y	N	Y
	TVA	N	N	N	N	Y	Y	N	Y
	Chicago Merchantile	N	N	N	N	N	N	N	Y
	General Public	N	N	N	N	N	N	N	Y
Information Providers	Shippers	Y	Y	Y	Y	Y	Y	Y	Y
	Lock Operators	Y	Y	Y	Y	Y	Y	Y	Y
	Tow Operators	Y	Y	Y	Y	Y	Y	N	Y

Many Inputs, Many Outputs, One Lo

RiverPass Partners



The Team

- Anne Sudar
  Water Resources Planner
- Doug McDonald
  Statistician
- Tomiann McDaniel
  Program Manager
- Technology Specialist

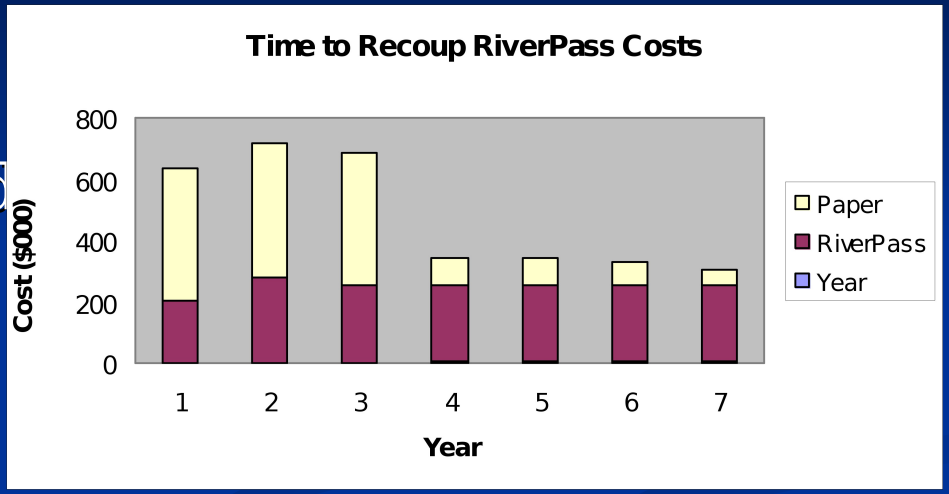
- Steering Committee
  - Business Line Manager for the Inland Waterway Navigation Business Line,
  - Director of the Navigation Data Center,
  - Industry Representative, Chairman of the Inland Waterway Users Board,
  - US Coast Guard Chief of Operations,
  - MARAD Chief of Statistics,
  - Port of Pittsburgh representative for SmartLock system,
  - Mississippi Valley and Lakes and Rivers Division, Chiefs of Operations

Development Plan

- Start with pilot program (proof of concept)
- Two towboats for two months
  - Towboat from major operator
  - Towboat from small operator
- Review quality
- Compare with output from legacy systems
- Make adjustments as necessary based on pilot results

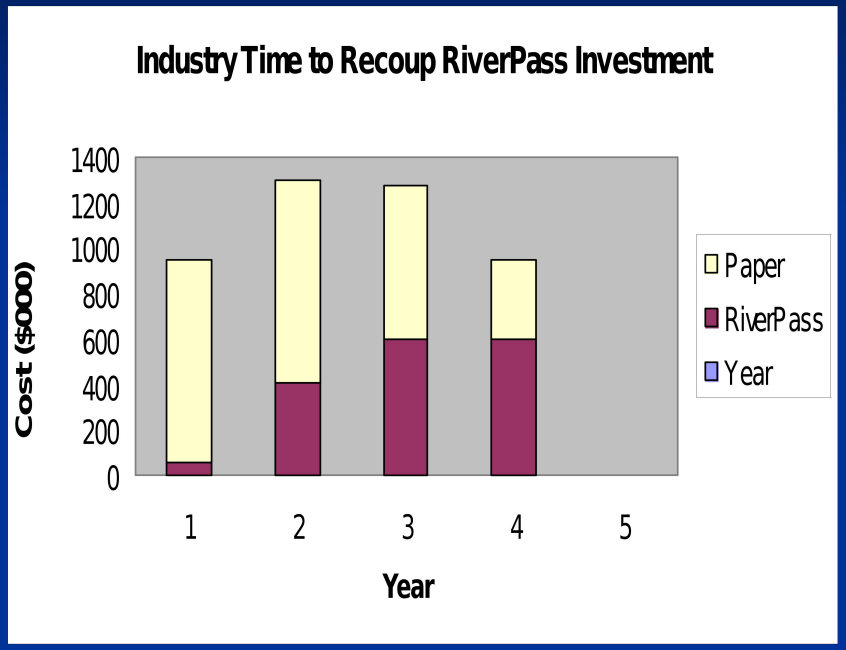
Corps' Return on Investment

- Current Annual Corps Costs - $433,000
- RiverPass Gets Started
  - Pilot Test $200,000
    - Prove the concept
    - Verify assumptions
    - Build industry support
  - First Year of Operation $280,000
    - 25% Fleet Operational
  - 2nd – 3rd Years of Operation $250,000/year
    - 80% Fleet Operational



$100,000 yearly return on investment within 8 years!

Industry Return on Investment



- Current Annual Industry Costs $900,000
  - Generate paper form
  - Submit forms to Corps
  - Delays and fines
- RiverPass eliminates this cost
- RiverPass Industry Startup Costs
  - Pilot Test $50,000
  - 80% of fleet operational within 3 years- $1,600,000

Net annual savings of $900,000 in six years

Other Benefits not quantified

- Improved vessel/barge utilization
- Homogeneous cruising speeds
- Reduced delays and waiting times
- Higher safety performance
- Improved logistics planning for shippers
- More efficient lock operation
- Improved efficiency at terminals
- Better information for Corps models

Recommendation

RiverPass could help transform inland waterway transport into a transparent, reliable, flexible, and easy-to-access transport mode.

The Corps of Engineers, charged with operating and maintaining the inland waterway system, should seize this opportunity to NAVIGATE INTO THE 21ST CENTURY.

Recent Progress

- Briefing of Inland Waterways Users Board
- Briefing of Corps Chief of Operations
- Briefing of Navigation Business Line Manager
- Discussions with Data Task Group of the Committee on the Marine Transportation System
- Currently developing a proposal for a “proof of concept”

ey Take-Away Points

- Needs to be a public-private venture; Corps cannot and should not do it alone
- Involvement of all stakeholders is essential, so that the system satisfies their needs
- It is worth doing for the waterborne commerce data alone; other benefits are gravy